Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-10 (cancelled)

11. (currently amended) A catheter comprising:

an elongated catheter shaft having an inner tubular member with a lumen, and an outer tubular member disposed about the inner tubular member such that a lumen of the outer tubular member is defined therebetween; and

a variable stiffness mandrel disposed in said ~~shaft~~ outer tubular member lumen, having a solid core comprised of a non-metal material, a bonded proximal end section which fixedly secures the mandrel relative to the catheter shaft, an annealed proximal section which is located between and spaced apart from an outer surface of the inner tubular member and an inner surface of the outer tubular member and which has ~~distal to the bonded proximal end section of the mandrel such that the annealed proximal section is a nonbonded section with~~ a first crystallinity, and a non-annealed distal section with a second crystallinity lower than said proximal section first crystallinity such that the proximal section is stiffer than the distal section.

12. (previously presented) The catheter of claim 11 wherein said material is selected from the group consisting of polyamides, polyetheretherketone, polyphenylene sulfide, polyetheramide, polyimide, and any combination thereof.

13. (previously presented) The catheter of claim 11 wherein said proximal section is larger than a diameter of said distal section of said mandrel.

14. (previously presented) The catheter of claim 11 further comprising an inflatable member secured to the catheter shaft, wherein said distal section of said mandrel extends to a location along the length of the catheter located in the inflatable member.

15. (previously presented) The catheter of claim 11 further comprising an inflatable member secured to the catheter shaft, and wherein the distal section of the mandrel extends to a location proximal to the inflatable member.

16. (cancelled)

17. (previously presented) The catheter of claim 11 wherein said mandrel is formed by necking at high temperatures such that said proximal section is stiffer than said distal section.

18. (previously presented) The catheter of claim 11 wherein said mandrel is formed by taper extruding such that said proximal section is stiffer than said distal section.

19. (previously presented) A catheter comprising:

an outer member;

a hollow inner member extending through said outer member;

an outer lumen between said inner and outer members; and

a non-metal mandrel formed of a polyetheretherketone polymeric material, extending through said outer lumen, said mandrel having an annealed proximal section located between and spaced apart from an outer surface of the inner member and an inner surface of the outer member having a first crystallinity, and a non-annealed distal section having a second crystallinity lower than the proximal section first crystallinity, and being uniformly tapered from the proximal section to the distal section.

20. (cancelled)

21. (previously presented) The catheter of claim 19 wherein a diameter of said proximal section is larger than a diameter of said distal section of said uniformly tapered mandrel.

22. (previously presented) The catheter of claim 19 further comprising an inflatable member having an inflatable interior, and comprising a proximal portion secured to a distal portion of the outer member and a distal portion secured to a distal portion of the inner member, wherein said distal section of said mandrel extends to a location along the length of the catheter located in the inflatable member.

23. (previously presented) The catheter of claim 19 further including an inflatable member secured to the outer member and the hollow inner member with an interior in fluid communication with the outer lumen and wherein the distal section of the mandrel extends to a location proximal to the inflatable member.

24. (cancelled)

25. (previously presented) The catheter of claim 19 wherein said mandrel is formed by necking at high temperatures such that said proximal section is stiffer than said distal section.

26. (currently amended) The catheter of claim 19 wherein said mandrel is formed by taper extruding ~~each~~ such that said proximal section is stiffer than said distal section.

27-50. (cancelled)

51. (cancel)

52. (cancelled)

53. (cancel)

54-55. (cancelled)

56. (cancel)

57. (cancel)

58. (cancel)

59. (previously presented) The catheter of claim 19, wherein said mandrel is fixed to lock said mandrel in place relative to said catheter outer member.

60. (previously presented) The catheter of claim 19 wherein said hollow inner member defines a guidewire receiving lumen.

61-63. (cancelled)

64. (cancel).

65. (cancel).